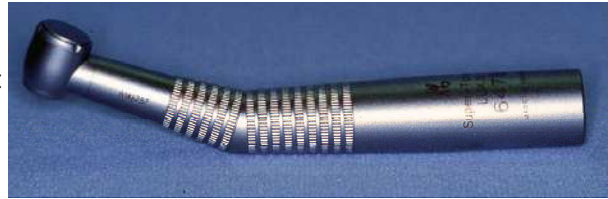


### 57-19 KaVo 647B High-Speed Fiberoptic Handpiece (Project 98-41) (4/99)

The KaVo 647B High-speed Fiberoptic Handpiece is the replacement for the discontinued 640B model and features a larger, more powerful turbine with triple-port spray cooling. Improvements over the 640B include a redesigned turbine with the same power as the 640B but at reduced RPM's and lower noise levels, softer grip knurling for easier cleaning prior to sterilization,



and a non-return valve to virtually eliminate aspiration of contaminated fluids into the handpiece. The handpiece is indicated for clinical procedures requiring a significant amount of heavy cutting such as crown and bridge. The 647B is connected to the dental unit handpiece hose by either the KaVo Multiflex Lux 465 LRN or the Kavo Multiflex Lux 1390 Coupler. Both couplers provide easy handpiece interchangeability, anti-retraction valves and 360° swivel. The Multiflex Lux 465 LRN Coupler contains the fiberoptic bulb and water spray adjustment and is used with Kavo LCM illuminators and tubing (6-pin type). The Kavo Multiflex Lux 1390 Coupler allows the handpiece to be connected to standard ISO 5-hole fiberoptic handpiece hoses that provide the fiberoptic light with a bulb at the end of the hose or from a remote source. The handpiece has a push-button autochuck and can be heat sterilized in either an autoclave or chemiclave. The free-running speed was measured by DIS and found to be 339,000 RPM at 36 psi. The 647B contains an automatic air regulator valve that senses line air pressure and automatically reduces it to the correct 36 psi. This allows all handpiece hose pressures to be set at the higher air pressures required for slow-speed handpieces without damaging the high-speed handpiece. The turbine is field replaceable to reduce down time, but Kavo recommends returning the handpiece to them for servicing. The KaVo 647B handpiece (including coupler) measures 14 cm (5.5 inches) in length and weighs 91 grams (3.2 ounces). The handpiece head is 12.5 mm (0.5 inches) in diameter and 14.6 mm (0.57 inches) long. The distance from the back of the handpiece head to the tip of a standard 19-mm bur (i.e., interocclusal clearance) is 22.7 mm (0.9 inches). The handpiece is warranted against defects in materials and workmanship for one year.

#### **Manufacturer:**

KaVo America  
340 East Main Street  
Lake Zurich, IL 60047  
(800) 323-8029  
(847) 550-6800  
(847) 550-6825 FAX

#### **Suggested Retail Prices:**

647B High-speed Handpiece \$875.00  
Multiflex Lux 465 LRN Coupler \$245.00  
Multiflex Lux 1390 Coupler \$205.00

#### **Government Prices:**

647B High-speed Handpiece \$446.25  
Multiflex Lux 465 LRN Coupler \$147.00  
Multiflex Lux 1390 Coupler \$98.00

#### **ADVANTAGES:**

- + Excellent longevity following repeated use/sterilization (based on previous evaluations of Kavo handpieces).
- + Excellent power (14.0 watts).
- + Minimal degradation of fiberoptic intensity (based on previous studies of Kavo handpieces).
- + Automatic air pressure regulator.
- + 360° swivel coupler.

- + Excellent concentricity.
- + Push-button bur release.
- + Turbine is field replaceable.
- + Only requires lubrication before sterilization.
- + One-year warranty.

**DISADVANTAGES:**

- Coupler is easily damaged if dropped or abused.
- Cellular fiberoptics can break if dropped.
- Visibility and access are reduced due to larger turbine.

**SUMMARY AND CONCLUSIONS:**

The Kavo 647B Fiberoptic High-speed Handpiece is the replacement for the discontinued Kavo 640B handpiece. It is designed for practices that have heavy cutting demands such as crown and bridge. The handpiece performed much better than average for most parameters evaluated. Its power (14.0 watts) is in the upper third of all models evaluated and is well over the 5 watts required for clinical acceptability. Previous long-term clinical use/sterilization studies have demonstrated excellent resistance to fiberoptic degradation of the Kavo cellular optics. Similarly, extended longevity following repeated use/sterilization has been demonstrated in previous DIS studies. Intra-oral access was rated good by one evaluator but only fair by the other. The noise level of the 647B was measured at 62.5 decibels, well below the maximum 8-hour, 85-dB(A) exposure limit established by the Occupational Safety and Health Administration (OSHA). Overall, the Kavo 647B was rated as "Good" by half the evaluators and "Excellent" by the other half. The **Kavo 647B** is rated **Recommended** for use by the federal dental services.